

AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently amended) A programmable controller according to claim [[1]] 7, further comprising changing means for changing the interval of generating an interruption trigger by the interruption trigger generating means.
3. (Currently amended) A programmable controller according to claim [[1]] 7, further comprising changing means for changing the time duration of executing the peripheral service process executed by the interruption process means.
4. (Currently amended) A programmable controller according to claim [[1]] 7, further comprising means for prohibiting an external interruption during the execution of the user program process in response to reading a prescribed interruption mask command, and canceling the prohibition of the external interruption during the execution of the user program process in response to reading a prescribed interruption mask cancel command.
5. (Currently amended) A programmable controller according to claim [[1]] 7, wherein the prescribed interval is determined by the sum of the time duration of executing the previous peripheral service process and a prescribed time period.
6. (Cancelled)
7. (New) A programmable controller comprising:
an I/O unit for input and output with various pieces of equipment that are to be controlled;
an I/O memory for storing I/O data corresponding to the I/O unit;
a user program memory for storing user program corresponding to user defined control requirements;
a system program memory for storing various system programs in order to realize functions as a PLC (lower level programmable controller);

a microprocessor for executing system program stored in the system program memory; and

an interruption trigger generating means for generating an interruption trigger at a prescribed interval;

said system program at least comprising;

a user program execution process for executing user programs stored in the user program memory;

a I/O refresh process for refreshing I/O data between the I/O memory and the I/O unit; and

a peripheral service process comprising data communication with an upper-level computer, communication with special I/O or remote I/O, and data relay process in a factory automation (FA) network, wherein:

the user program execution process and I/O refresh process are executed by a normal process of the microprocessor, and the peripheral service process is executed for a prescribed amount of time according to an interruption process of the microprocessor every time an interruption trigger is generated by the interruption trigger generating means.

8. (New) A programmable controller comprising:

an I/O unit for input and output with various pieces of equipment that are to be controlled;

an I/O memory for storing I/O data corresponding to the I/O unit;

a user program memory for storing user program corresponding to user defined control requirements;

a system program memory for storing various system programs in order to realize functions as a PLC (lower level programmable controller);

a microprocessor for executing a system program stored in the system program memory;

an interruption trigger generating means for generating an interruption trigger at a prescribed interval; and

a mode setting means for setting an operation mode to one of a first mode and a second mode;

the system program comprising:

a user program execution process for executing user programs stored in the user program memory;

an I/O refresh process for refreshing I/O data between the I/O memory and the I/O unit; and

a peripheral service process comprising data communication with an upper-level computer, communication with special I/O or remote I/O, and data relay process in a FA (factory automation) network, wherein;

in the first mode, the user program process, I/O refresh process, and peripheral service process are cyclically executed by the microprocessor according to a normal procedure; and

in the second mode, the user program process and I/O refresh process are executed by the microprocessor according to the normal procedure, and the peripheral service process is cyclically executed for a prescribed amount of time according to an interruption process of the microprocessor every time an interruption trigger is generated by interruption trigger generating means.